CHAPTER 2
BACKGROUND

Kentucky's reform effort is based on the principle that all students are capable of learning at high levels. The second of the six major goals of KERA is that the educational system is to develop students' abilities in six cognitive areas. These goals are summarized in Table 2-1 below.

TABLE 2-1
KENTUCKY'S SIX LEARNER GOALS

1.	Students shall use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives.
2.	Students shall develop their abilities to apply core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, practical living studies, and vocational studies to what they will encounter throughout their lives.
3.	Students shall develop their abilities to become self-sufficient individuals.
4.	Students shall develop their abilities to become responsible members of a family, work group, or community, including demonstrating effectiveness in community service.
5.	Students shall develop their abilities to think and solve problems in a variety of situations they will encounter in life.
6.	Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through media sources.

To understand the Kentucky assessment and accountability programs, one must understand the context from which these goals arose. This chapter describes actions that led to the current system.

KENTUCKY CONSTITUTION

The Kentucky Constitution, adopted in 1891, states that the "*General Assembly shall, by appropriate legislation, provide for an efficient system of common schools throughout the state.*"

COUNCIL FOR BETTER EDUCATION V. WILKINSON

In November 1985, the Council for Better Education, a nonprofit corporation formed by 66 school districts, seven Boards of Education, and 22 public school children, sued the state for not providing an efficient system of education. In October 1988, Franklin County Circuit Court Judge Ray Corns found for the plaintiffs. As a result of the Supreme Court review of this case, seven capacities establishing a new legal

framework for the school curriculum were set forth by the court as necessary for an adequate education:

> *Schools must provide (i) significant oral and written communication skills to enable students to function in a complex and rapidly changing civilization; (ii) sufficient knowledge of economic, social, and political systems to enable the student to make informed choices; (iii) sufficient understanding of government processes to enable the student to understand the issues that affect his or her community, state, and nation; (iv) sufficient self-knowledge and knowledge of his or her mental and physical wellness; (v) sufficient grounding in the arts to enable each student to appreciate his or her cultural and historical heritage; (vi) sufficient training or preparation for advanced training in either academic or vocational fields so as to enable each child to choose and pursue life work intelligently; and (vii) sufficient levels of academic or vocational skills to enable public school students to compete favorably with their counterparts in surrounding states, in academics or in the job market. Council for Better Education v. Wilkinson, NO. 85-CI-1759, slip op. at 4 (Franklin Cir. Ct., Oct. 14, 1988).*

In June 1989, the Kentucky Supreme Court directed the General Assembly to recreate and reestablish a new efficient system of common schools that complied with the Kentucky Constitution. The Court defined an efficient system of common schools as "an organization that provides a free and adequate education to all students throughout the state regardless of geographical location or local fiscal resources."

COUNCIL ON SCHOOL PERFORMANCE STANDARDS

In February 1989, on his own initiative, Governor Wallace Wilkinson issued an executive order creating a twelve-member Council on School Performance Standards. Charged with determining what all students should know and be able to do and how learning should be assessed, the Council began its work by traveling across the Commonwealth conducting focus group interviews with business leaders, employers of graduates, parents, and educators, and asking them what a high school graduate in the year 2000 should know and be able to do. Information from the group interviews was used to construct a twenty-two minute telephone survey. More than 830 Kentucky residents of voting age were called and asked their opinions about what should be expected of future high school graduates.

In September 1989, the Council on School Performance Standards produced the report, *Preparing Kentucky Youth for the Next Century: What Students Should Know and Be Able To Do and How Learning Should Be Assessed* and presented it to the Curriculum Committee of the Legislative Task Force charged with creating Kentucky's new "efficient system of common schools." Six broad learning goals for all students were

recommended with particular emphasis on what they should be able to do. These learning goals are presented in Table 2-1.

In addition, the Council recommended that the state launch a major effort to assess student performance beyond what can be measured by paper-and-pencil tests. It also was recommended that the state initiate long-range development efforts that support school reform in implementing the new learning goals.

KENTUCKY EDUCATION REFORM ACT

In 1990, the Council's recommendations were incorporated into House Bill 940, the Kentucky Education Reform Act (KERA), as a first step in redefining the school curriculum and providing what the courts required as an adequate education for all students. The bill was signed by Governor Wallace Wilkinson on April 11, 1990, and became law on July 13, 1990.

With KERA, the General Assembly established the framework for a major revision of Kentucky's educational system. KERA required the establishment of learning goals for the educational system, provided a procedure by which those goals would be defined and assessed, and created a series of rewards and assistance to be associated with performance of schools on those assessments.

With these actions, Kentucky established its six KERA goals (see Table 1-1) and its six learning goals (see Table 2-1).

ACADEMIC EXPECTATIONS

To further define what was expected of students, in December 1991, the Kentucky Board of Education adopted 75 statements, at that time called Valued Outcomes, describing what was expected of students. During the first three years of testing, more than 40 Valued Outcomes were incorporated into the new assessment system. In 1994, it became clear that the language used in the 75 Valued Outcomes did not clearly convey their intent to many important audiences, including parents, legislators, media commentators, and some educators. In addition, there were concerns regarding the near-term feasibility of measuring Learner Goal 3 (self-sufficiency) and Learner Goal 4 (responsible group membership). To address both sets of concerns, the Kentucky Department of Education (KDE) met with or received comments from more than 175 people including parents, educators, students, representatives of business and government, clergy, and non-affiliated citizens. Comments were received from both critics and advocates of Kentucky's Education Reform efforts.

The result of this process was the establishment of 57 Academic Expectations that describe what Kentucky students should be able to know and do when they graduate from high school. Table 2-2 presents the 12 Academic Expectations (the original Valued Outcomes 5-9 were combined into one Academic Expectation, whose number reflects that, 1.5-9) related to Goal 1 – Communication Skills. Table 2-3 presents the 37

Academic Expectations (the original Valued Outcomes 16 and 21 were combined) related to Goal 2 – Core Academic Concepts. Table 2-4 presents the five Academic Expectations for Goal 5 –Think and Solve Problems, and Table 2-5 presents the three Academic Expectations for Goal 6 – Integrating Knowledge.

TABLE 2-2
ACADEMIC EXPECTATIONS FOR GOAL 1: COMMUNICATION SKILLS

1.1	Students use reference tools such as dictionaries, almanacs, encyclopedias, and computer reference programs, and reference tools such as interviews and surveys to find the information they need to meet specific demands, explore interests, or solve specific problems.
1.2	Students make sense of the variety of materials they read.
1.3	Students make sense of the variety of things they observe.
1.4	Students make sense of the various messages to which they listen.
1.5-9	Students use mathematical ideas and procedures to communicate, reason, and solve problems. (The original Valued Outcomes 1.5-9 were combined)
1.10	Students organize information through development and use of classification rules and systems.
1.11	Students write using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.12	Students speak using appropriate forms, conventions, and styles to communicate ideas and information to different audiences for different purposes.
1.13	Students make sense of ideas and communicate ideas with the visual arts.
1.14	Students make sense of ideas and communicate ideas with music.
1.15	Students make sense of ideas and communicate ideas with movement.
1.16	Students use computers and other kinds of technology to collect, organize, and communicate information and ideas.

TABLE 2-3 ACADEMIC EXPECTATIONS FOR GOAL 2: CORE ACADEMIC CONCEPTS

SCIENCE

2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.

2.2 Students identify, analyze, and use patterns such as cycles and trends to understand past and present events and predict possible future events.

2.3 Students identify and analyze systems and the ways their components work together or affect each other.

2.4 Students use the concept of scale and scientific models to explain the organization and functioning of living and nonliving things and predict other characteristics that might be observed.

2.5 Students understand that under certain conditions nature tends to remain the same or move toward a balance.

2.6 Students understand how living and nonliving things change over time and the factors that influence the changes.

MATHEMATICS

2.7 Students understand number concepts and use numbers appropriately and accurately.

2.8 Students understand various mathematical procedures and use them appropriately and accurately.

2.9 Students understand space and dimensionality concepts and use them appropriately and accurately.

2.10 Students understand measurement concepts and use measurements appropriately and accurately.

2.11 Students understand mathematical change concepts and use them appropriately and accurately.

2.12 Students understand mathematical structure concepts including the properties and logic of various mathematical systems.

2.13 Students understand and appropriately use statistics and probability.

SOCIAL STUDIES

2.14 Students understand the democratic principles of justice, equality, responsibility, and freedom and apply them to real-life situations.

2.15 Students can accurately describe various forms of government and analyze issues that relate to the rights and responsibilities of citizens in a democracy.

2.16 Students observe, analyze, and interpret human behaviors, social groupings, and institutions to better understand people and the relationships among individuals and among groups.

2.17 Students interact effectively and work cooperatively with the many ethnic and cultural groups of our nation and world.

2.18 Students understand economic principles and are able to make economic decisions that have consequences in daily living.

2.19 Students recognize and understand the relationship between people and geography and apply their knowledge in real-life situations.
2.20 Students understand, analyze, and interpret historical events, conditions, trends, and issues to develop historical perspective.
2.21 (Incorporated into 2.16)

ARTS AND HUMANITIES

2.22 Students create works of art and make presentations to convey a point of view.
2.23 Students analyze their own and others' artistic products and performances using accepted standards.
2.24 Students have knowledge of major works of art, music, and literature and appreciate creativity and the contributions of the arts and humanities.
2.25 In the products they make and the performances they present, students show that they understand how time, place, and society influence the arts and humanities such as languages, literature, and history.
2.26 Though the arts and humanities, students recognize that although people are different, they share some common experiences and attitudes.
2.27 Students recognize and understand the similarities and differences among languages.
2.28 Students understand and communicate in a second language.

PRACTICAL LIVING

2.29 Students demonstrate skills that promote individual well being and healthy family relationships.
2.30 Students evaluate consumer products and services and make effective consumer decisions.
2.31 Students demonstrate the knowledge and skills they need to remain physically healthy and to accept responsibility for their own physical well being.
2.32 Students demonstrate strategies for becoming and remaining mentally and emotionally healthy.
2.33 Students demonstrate the skills to evaluate and use services and resources available in their community.
2.34 Students perform physical movement skills effectively in a variety of settings.
2.35 Students demonstrate knowledge and skills that promote physical activity and involvement in physical activity throughout their lives.

VOCATIONAL STUDIES

2.36 Students use strategies for choosing and preparing for a career.
2.37 Students demonstrate skills and work habits that lead to success in future schooling and work.
2.38 Students demonstrate skills such as interviewing, writing resumes, and completing applications that are to be accepted into college or other postsecondary training or to get a job.

TABLE 2-4 ACADEMIC EXPECTATIONS FOR GOAL 5: THINK AND SOLVE PROBLEMS	
5.1	Students use critical thinking skills such as analyzing, prioritizing, categorizing, evaluating, and comparing to solve a variety of problems in real-life situations.
5.2	Students use creative thinking skills to develop or invent novel, constructive ideas or products.
5.3	Students organize information to develop or change their understanding of a concept.
5.4	Students use a decision-making process to make informed decisions among options.
5.5	Students use problem-solving processes to develop solutions to relatively complex problems.

TABLE 2-5 ACADEMIC EXPECTATIONS FOR GOAL 6: INTEGRATE KNOWLEDGE	
6.1	Students connect knowledge and experiences from different subject areas.
6.2	Students use what they already know to acquire new knowledge, develop new skills, or interpret new experiences.
6.3	Students expand their understanding of existing knowledge by making connections with new knowledge, skills, and experiences.

THE ACCOUNTABILITY SYSTEM

KIRIS data are used to hold schools accountable. This is done to heighten public attention in order to focus schools on helping their students achieve the high standards set by committees of Kentucky educators. Inherent in the accountability system is the recognition that the massive changes in instruction and learning will require many years to be achieved. Originally, there was no definite schedule, although many spoke of this as an effort that would take at least 20 years. In its implementation of 1998 amendments to the act, the Kentucky Board of Education specified that the process be targeted for completion by 2014.

In order to keep schools focused throughout this lengthy period, a system of setting sub-goals was developed. To reflect the distinctive starting points of different schools and their different populations, a unique improvement goal is calculated for each school to keep it moving in the right direction.

KERA called for the integration of all information collected into three statistics for each school in the state. First, a ***baseline***, or initial accountability index, is computed. From this baseline, an ***improvement goal*** (in previous publications the improvement goal was referred to as the threshold) is set. Each school's improvement goal represents a 10% improvement against the difference between its baseline and 100. Finally, a school's ***accountability index*** is calculated and compared to its improvement goal. For

example, if a school's baseline is 30, the difference between its baseline and 100 is 70. Ten percent of 70 is 7. Thus, the school's improvement goal is 30+7, or 37.

Specifically, for the first Accountability Cycle, 1992 (in this report the year the test was administered will be used, rather than the academic year, i.e. 1991-92 to denote the accountable year) testing data provided the baseline against which the combined results of 1993 and 1994 testing were compared. Similarly, for Accountability Cycle 2, the 1993 and 1994 testing data provided a new baseline against which 1995 and 1996 results were compared. The pattern continued for Accountability Cycle 3 with 1995 and 1996 serving as the new baseline, and 1997 and 1998 serving as improvement years of Accountability Cycle 3.

MEASURES. In addition to the assessment data collected through **on demand** testing and **portfolios** (for descriptions of each testing method, (see Chapter 3, Test Specifications), KERA called for the accountability system to include certain non-cognitive indicators of school success:

Attendance (used in all grades)
Retention (used in grades 4-12)
Dropout rate (used in grades 7 through 12 only)
Transition to adult life (used in grade 12 only)

As with the cognitive areas, an advisory committee was created to ensure the input of Kentucky educators in the design of this component of the accountability system. Using the criteria specified by KERA as its foundation, the committee guided the development of the definitions of each variable and made suggestions for alterations in the system for future years.

TEST ADMINISTRATION CHANGES

During Accountability Cycle 3, there were several changes as a result of legislative and administrative actions. Following the end of Cycle 2 (the mid-point of Cycle 3) in 1996, the performance events were deleted from the accountability index because of difficulties in establishing reliability in both administration and scoring. The performance events were administered at grades 4 and 8 in 1995 and 1996, and at grade 12 in 1995 and grade 11 in 1996. Two additional changes involving portfolios were also implemented. The Writing Portfolio audits began with the 1996 assessment year and have continued. One previous audit of Writing Portfolios had been conducted in 1993. (See Chapter 12 for comments on the comparison of the 1993 and 1996 audits.) In 1997 the Mathematics Portfolio was placed in a research and development phase. While the Mathematics Portfolios had counted in school indices during the growth biennium for Accountability Cycle 2, the baselines for Accountability Cycle 3 were recalculated to exclude Mathematics Portfolios from the accountability indices. These changes are discussed more fully in Chapter 7.

An important assessment change was initiated in spring 1997. One of the persistent criticisms of KIRIS was that the assessment had no provision for comparing Kentucky students with those in other parts of the nation. Mistrust of the validity of improving KIRIS scores existed because there was no broad evidence that improvement was also taking place on a nationally norm referenced assessment instrument. Thus, in 1997 and 1998, The Comprehensive Test of Basic Skills Version 5 Survey edition (CTBS/5) was administered at the end of primary (grade 3), grades 6, and 9 at the same time as the KIRIS test. These grades were selected because the students were not participating in other portions of the KIRIS criterion based assessment. The CTBS/5 Survey Edition is a norm-referenced test, which measures mastery of Basic Skills in Reading (basic understanding, analyze text, evaluate/extend meaning, identify reading strategies), mathematics (number/numeric relations, computation/ estimation, geometry/spatial sense), and language arts (sentence structure, writing strategies, editing skills).

The scores from the CTBS/5 were expressed as Normal Curve Equivalents (NCEs). NCEs are often thought of as equal interval scores similar in function to z scores. While NCEs may appear to be similar to percentile scores, the two scales match only at 1, 50 and 99. An NCE scale has a mean of 50 and a standard deviation of 21.06. To convert percentile rankings to NCEs it is necessary to normalize the z-scores associated with each rank and then transform using the equation NCE = 50 + 21.06 (z). Any score above 50 exceeds the mean score of the national sample of students used to norm the test. The CTBS/5 was norm referenced in 1996. Scores for individual students, schools, and districts were provided to each district. While the CTBS/5 is part of the assessment system, it is not part of the accountability index used for purposes of evaluating schools. Nevertheless, the uses of the scores are supportive of Kentucky's effort to reform the schools. Parents can use the scores to compare their children to the average performance of students across the nation. Schools can benefit by using the scores in curriculum development based on the identified basic skills that need a change in emphasis. The test helps identify particular students with needs. Again, *the CTBS/5 is not used in the school level accountability index.*

During Accountability Cycle 3, Kentucky participated in the National Assessment of Educational Progress (NAEP) program. NAEP is standards based assessment that is administered to a national sample. The NAEP is also administered at the state level, to a different sample of students. The state assessments are not aggregated to obtain the national results. Kentucky has participated in all of the assessments since NAEP began state testing in 1990. See Table 2-6 for the subjects and years NAEP was administered in which Kentucky participated.

For each state administration, NAEP selected a sample of approximately 100 schools and approximately 2,500 students per subject per grade. The tests are administered at grade 4 and grade 8. The state sample was stratified by characteristics such as urban/rural, percentage of minority students, median household income, education of residents over 25, and other demographic data. Some characteristics were not used on some state tests, or during certain years. Within the strata, the schools were chosen

randomly, and within the school, approximately 30 students per subject per grade were chosen randomly. In the 1998, 2,442 students participated in the NAEP Reading test in grade 4 while 2,282 students took the NAEP Reading test in grade 8. All these students were public school students. Results are not reported at the district, school, or student level. However, state NAEP results are reported when participation rate requirements are met. More than 70 percent of the initial sample must participate for state NAEP reporting purposes. Notations are made if the initial sample participation falls below 85 percent, *and* if the school participation level falls below 90 percent after substitutions.

The United States Department of Education administers the NAEP through the National Center for Educational Statistics (NCES), and its contractors. NCES has primary responsibility for overseeing planning, development, production, testing, sampling, training, scoring, analyzing, and reporting. The Educational Testing Service (ETS) does item development and field-testing. National Computer Systems distributes and processes materials. Westat manages the field administration of the assessment.

The data in Table 2-6 summarizes school participation rates, numbers of schools, student participation rates, and the total number of students assessed for all state NAEP administrations in Kentucky.

TABLE 2-6
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
KENTUCKY PARTICIPATION RATES IN THE STATE NAEP

	Weighted School Participation Rate (%)		Number of Schools Participating	Weighted Student Participation Rate (%)	Total Number Of Students Assessed
	Before Substitutes	After Substitutes			
READING					
Grade 4					
1992	94	97	119	96	2752
1994	88	96	101	97	2758
1998	90	92	99	96	2442
Grade 8					
1998	87	87	91	93	2282
MATHEMATICS					
Grade 4					
1992	93	96	118	96	2703
1996	88	96	102	95	2579
Grade 8					
1990	100	100	104	95	2680
1992	96	98	104	96	2756
1996	88	92	101	94	2461
SCIENCE					
Grade 8					
1996	87	92	100	94	2459
WRITING					
Grade 8					
1998	87	87	89	93	2341

Table 2-7 indicates the percentages of Kentucky students who fell into NAEP's categories of basic, proficient and advanced. The Table also provides data for comparison with the Southeast region and the nation. Only the percent below and percent at or above basic add to 100 percent. The other two columns are included in the above basic percentage. This Table demonstrates the tests that were administered in Kentucky more than one year, the percentage of students below basic has declined, and the number at or above proficient has increased in every case. While the percentage of students below basic in writing is much lower than percentages in other subjects, it also is only one percentage point different from the national percentage. Comparison of test results across years indicates that Kentucky students are improving.

TABLE 2-7
NATIONAL ASSESSMENT OF EDUCATIONAL PROGRESS
COMPARISON WITH SOUTHEAST AND NATION

	Scale Score	Percent Below Basic	Percent At Or Above Basic	Percent At Or Above Proficient	Percent At Or Above Advanced
READING					
Grade 4					
1992					
Kentucky	213	42	58	23	3
Region	211	45	55	22	4
Nation	215	40	60	27	6
1994					
Kentucky	212	44	56	26	6
Region	208	47	53	23	6
Nation	212	42	58	28	7
1998					
Kentucky	218	37	63	29	6
Region	210	46	54	23	5
Nation	215	39	61	29	6
Grade 8					
1998					
Kentucky	262	26	74	29	2
Region	258	32	68	25	2
Nation	261	28	72	31	2
MATHEMATICS					
Grade 4					
1992					
Kentucky	215	49	51	13	1
Region	210	54	46	11	1
Nation	219	43	57	17	2

TABLE 2-7 (Continued)					
	Scale Score	Percent Below Basic	Percent At Or Above Basic	Percent At Or Above Proficient	Percent At Or Above Advanced
1996					
Kentucky	220	40	60	16	1
Region	216	47	53	14	2
Nation	222	38	62	20	2
Grade 8					
1990					
Kentucky	257	57	43	10	1
Region	252	58	42	12	1
Nation	262	49	51	15	2
1992					
Kentucky	262	49	51	14	2
Region	259	53	47	13	1
Nation	267	44	56	20	3
1996					
Kentucky	267	44	56	16	1
Region	264	46	54	16	2
Nation	271	39	61	23	4
Science					
Grade 8					
1996					
Kentucky	147	42	58	23	2
Region	141	47	53	22	2
Nation	148	40	60	27	3
Writing					
Grade 8					
1998					
Kentucky	146	16	84	21	1
Region	143	19	81	19	1
Nation	148	17	83	24	1

The data in Table 2-7 indicates improvement for Kentucky in all subject areas where testing has been done more than once. Throughout the table Kentucky stands above the region at all points. For example, in grade 4 Reading Kentucky moved from below the national average in 1992, to above the national average in 1998. The grade 8 results were also above the national average. The difference between Kentucky and the nation is small, but differences from other states are larger. NAEP reported that for grade 4 Reading in 1998 Kentucky scored below Delaware, Iowa, Maine, Massachusetts, Minnesota, Montana, New Hampshire, and Wisconsin. Kentucky scored above Arizona, Arkansas, California, District of Columbia, Florida, Hawaii,

Louisiana, Mississippi, Nevada, New Mexico, South Carolina, and the Virgin Islands. Kentucky scored about the same as the remaining states.

Kentucky was one of only ten states (Colorado, Connecticut, Delaware, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, South Carolina and Washington) that improved significantly in Reading from 1992 or 1994 to 1998 on the NAEP test. When those improvements were correlated with exclusions from the test because of accommodations, the correlation was highly positive. Maryland and Kentucky were the two states, of the ten with large improvements, which had the highest exclusion rates. An important note is that Kentucky did not control the exclusion. NAEP exclusion criteria, not Kentucky's, are reflected in the results. Using NAEP's rather than Kentucky's criteria, the exclusion rate increased from 3.9 percent to 8.9 percent. Later research, resulting from further study of the change in exclusion rates matched Kentucky KIRIS scores to a predicted NAEP score. When these predicted scores were removed from the 1994 sample, the Kentucky improvement was reduced from 5.9 to 5.1, which would remain significant compared to the 2.1 points of possible error. Kentucky's improvement in Reading remains very creditable. The impact of the changes in exclusion rates/policies will not be exactly quantifiable since it would require turning back the calendar and controlling the test administration much more carefully.

In Mathematics, essentially the same pattern exists. Kentucky did improve in Mathematics, with smaller percentages below basic, and more at or above basic. Kentucky was consistently above the region in performance in Mathematics. Kentucky did remain below the national percentages in Mathematics through all the years of NAEP testing.

A second major change implemented in 1997 was the restructuring of grade levels at which students were assessed by KIRIS. A strong perception existed that the workload for grade 4 teachers was overwhelming. In addition to all the content area assessments, the grade 4 teachers were also supervising the production of the Writing and Mathematics Portfolios. To help relieve the grade 4 teaching burden, beginning in the 1997 testing session, Mathematics, Social Studies, Arts & Humanities, and Practical Living/Vocational Studies were moved from grade 4 to grade 5. In addition, the Mathematics Portfolio was removed from the assessment. Unlike the self-contained classroom at the elementary level, the burden at grade 8 was distributed among content area teachers. To broaden participation at the school level in the testing program, Reading and Science were moved for the 1997 testing year from grade 8 to grade 7, as were the Writing Portfolio and On-Demand Writing. These changes allowed the same content areas to be tested in grades 4 and 7 and grades 5 and 8. However, at the high school level no grade level changes were made. The intent of these changes was to 1) engage a larger number of students in a given school in the assessment program, 2) to reduce the length of time that an individual student was being tested, and 3) to relieve the assessment preparation burden on grade 4 and 8 teachers.

These changes raised some psychometric issues that had to be resolved. A special study was conducted to establish appropriate performance standards for students at the

new accountability grades. The objective was that student scores at the new accountability grade be as close as possible to the score that would have resulted from continued testing at the old grade levels. To achieve this goal, a sample of elementary and middle schools administered the KIRIS to students in both the old and the new accountability grades in both 1996 and 1997. In the 1996 assessment, grade 8 students took the Reading assessment for accountability purposes while grade 7 students took the assessment for research purposes. In 1997 the situation was reversed with grade 7 students taking the Reading for accountability and the grade 8 students taking it for research purposes. The same pattern was followed for other content areas and grade level changes.

The data were used to establish new theta cut scores for the four performance classifications (Novice, Apprentice, Proficient, Distinguished) at the new grade level. As expected, the grade 5 standards were slightly higher than the grade 4 standards, and the grade 7 standards were a little lower. The cut scores were set so that the distribution of accountability scores at the new grade were nearly the same as the distribution of scores for the previous accountability grade. The paper outlining the results of this analysis produced by HumRRO was entitled, *KIRIS 1997 Grade Shift Adjustments*, (June, 1998) and is available from the Kentucky Department of Education, Office of Assessment and Accountability.

A third major structural change to KIRIS during Accountability Cycle 3 was the reintroduction of multiple-choice items into the KIRIS assessment. Prior to Cycle 3, multiple-choice items had been present for assessment but not involved in accountability. The intention of the reintroduction was to allow for broader assessment of core content and student preparation in lower order recall and thinking skills. The intention was to introduce the multiple-choice questions for a two-year interim period prior to including them in the assessment index beginning in 1999. These multiple-choice questions are not to be confused with the CTBS/5, which also has a multiple-choice format, but is administered at end of primary (grade 3), grades 6, and 9.

Table 2- 8
CYCLE 3 Components of the KIRIS Assessment, 1995-1998

		Grade Level									
Content Area	Year	3	4	5	6	7	8	9	10	11	12
Reading	95		X				X			X	
	96		X				X			X	
	97		X			X				X	
	98		X			X				X	
Mathe-matics	95		X				X			X	
	96		X				X			X	
	97			X			X			X	
	98			X			X			X	
Science	95		X				X			X	
	96		X				X			X	
	97		X			X				X	
	98		X			X				X	
Social Studies	95		X				X			X	
	96		X				X			X	
	97			X			X			X	
	98			X			X			X	
Arts & Humanities	95		X				X			X	
	96		X				X			X	
	97			X			X			X	
	98			X			X			X	
PL/VS	95		X				X			X	
	96		X				X			X	
	97			X			X			X	
	98			X			X			X	
On-Demand Writing	95		X				X			X	
	96		X				X			X	
	97		X			X				X	
	98		X			X				X	
Writing Portfolio	95		X				X				X
	96		X				X				X
	97		X			X					X
	98		X			X					X
CTBS/5[1]	95										
	96										
	97	X			X			X			
	98	X			X			X			

1 This component was assessed but was not included in the accountability index.

In addition to the Writing Portfolio included in Table 2-8, Kentucky also uses an Alternative Portfolio, which generally applies to students with moderate to severe disabilities, which prevent them from participating in regular classroom instruction. Less than one-half of one percent of tested students participates in these Portfolios. These Portfolios are not constructed for each content area. Alternate Portfolios are either administered at grades 4, 8 and 12, or, for a student in a non-graded program, at ages 9, 13 (ages as of October 1) or during the student's last year in school. More information concerning alternate portfolios is contained in Chapter 12.

DOCUMENTATION CHANGES

In 1995, a document entitled *Guidelines for Handling Sensitive Issues in Kentucky's State Assessment Development* was created. The intent of the document was to formalize and standardize the manner in which the Content Advisory Committees that wrote the assessment items addressed sensitive issues. The Kentucky Association of School Councils, Kentucky School Boards Association, Kentucky Association of School Administrators, Kentucky Education Association, Kentucky PTA, Family Foundation, and the Office of Education Accountability reviewed the guidelines. This document was a written summary of oral presentations that had been made since the beginning of KIRIS. This was intended to guide the test development process. This document appears as Appendix A.

Parallel to the assessment program, development of the Core Content documents was also underway. Early in 1993 KDE published *Transformations: Kentucky's Curriculum Framework,* an extensive two-volume tool for teachers to use in curriculum construction. The need for providing a more compact content description, specifically for KIRIS, was identified later in 1993. The development of *Content Guidelines* began in fall 1993. During the spring of 1994, selected teachers around the state evaluated first drafts. This initial effort included only Social Studies and Science, subject areas in which students were scoring low on the assessment. The teacher response was overwhelming that all content areas needed guidelines. Development of material for inclusion in *Content Guidelines* for the other subject areas proceeded during the spring and summer of 1994. After review by parents, university educators, teachers, and other interested groups, version one was published in early 1995. After further review, version two was printed in mid-November 1995. The content was still deemed too broad. The new direction was to produce the *Core Content for Assessment* that contained what would be assessed and the minimum content necessary for every student to be able to use. Following regional meetings involving over 400 participants, a draft was circulated to districts in January 1996. Checks for alignment with the Academic Expectations were periodically conducted. Final revisions were made on input received and the Kentucky Board of Education approved the *Core Content for Assessment* in June 1996. Thereafter the document was available to the Content Advisory Committees for their use in drafting and selecting assessment items for inclusion in KIRIS testing.

An additional document that was developed during the time of Accountability Cycle 3 was the *Program of Studies for Kentucky Schools: Grades Primary-12.* This document incorporated the *Core Content for Assessment* and the Academic Expectations. The intent was to assist in the building of curriculum across all grades, not just the grade where the assessment occurred. The *Program of Studies* was organized around blocks of grades: primary, intermediate, middle, and high. The content was organized into expected content mastery at the beginning of the block, acquired content during the block, and expected content mastery at the end of the block of grades. The *Program of Studies* served an additional purpose of providing the minimum content required for all students before graduation from high school. With the completion of these documents,

Kentucky's teachers had substantial support available to help them target curriculum and instruction so that their students could be successful when assessed and in life situations.

TIMELINE

The following is a brief summary of actions related to Kentucky's system of assessment and accountability that assist in organizing the changes that have taken place in the program. These are actions taken by the Office of Assessment and Accountability (OAA) and its predecessor, the Office of Curriculum, Assessment, and Accountability.

1990

OAA assisted NAEP in the 1990 grade 8 NAEP Reading assessment.

Technical assistance was elicited for psychometric advice from experts in the field. The National Technical Working Group was formally established in 1995. This group had met informally from the beginning of the KIRIS development process.

1991

OAA assisted in gathering information for drafting the 75 Academic Expectations (originally referred to as Valued Outcomes).

1992

Small groups of Kentucky teachers assisted by OAA staff and contractors drafted the performance standards.

OAA, in conjunction with contractors, constructed, administered, scored and reported the first KIRIS assessment for the purpose of establishing baselines for the accountability system for schools.

The first teacher groups (later Content Advisory Committees) were formed to participate in writing and selecting the questions for the KIRIS assessment.

In the following years, KIRIS and its successor, CATS, used a wide variety of assessment types for the purpose of validity, accuracy of assessment, and assisting in modifying instruction. The types of assessment included multiple-choice (pre-tested in 1997 and 1998, and used for accountability in 1999), open-response, performance events (1993 to 1996), portfolios (Alternate Portfolios and Language Arts all years, Mathematics from 1993 to 1996), and On-Demand Writing.

OAA supervised, through a contractor, the administration and scoring of the alternate portfolio, which was included in the accountability system beginning in 1993.

OAA assisted NAEP in the 1992 assessment of grade 4 Reading and Mathematics, and grade 8 Mathematics.

In 1992, item level reporting was begun to improve student motivation. Changes were made incrementally from 1992 to 1998 to improve the process.

1993

An OAA contractor provided the first technical manual with detailed information concerning the assessment.

OAA offered the first professional development concerning test administration for the District Assessment Coordinators, and provided the first *Implementation Guidebook*. Limited professional development was begun in the 1991-92 school year.

OAA, through contractors, conducted the first audit of Writing Portfolio scores. After scoring accuracy analyses were conducted in 1994 and 1995, the audits were re-instituted as a regular feature.

KIRIS Curriculum and Assessment Reports were initiated for purposes of accountability. These later became the KIRIS Performance Reports (1997).

1994

OAA adjusted the assessment process based on the legislative withdrawal of Learner Goals 3 and 4 from assessment, and aided the reformulation of the 75 Valued Outcomes into the 57 Academic Expectations.

OAA again assisted NAEP in the assessment of grade 4 Reading

The first KIRIS cycle ended with the assignment of rewards and sanctions.

OAA assisted in the establishing of the first *Content Guidelines.*

OAA assisted with the production of the portfolio implementation manuals.

1995

OAA assisted in the study/validation of the 1992 performance standards.

1996

The first *Core Content for Assessment* document was produced.

OAA assisted NAEP in the administration of assessments in grade 4 Mathematics and grade 8 Mathematics and Science.

KIRIS Assessment Cycle 2 ends with the assignment of school rewards and sanctions.

1997

The administration of CTBS 5, Survey Version, TerraNova® assessment series began.

1998

The KIRIS Accountability Cycle 3 ended with the assignment to schools of rewards and assistance.

OAA assisted with the NAEP assessments in grade 4 Reading and grade 8 Reading and Writing.

The purpose of Chapter 2 has been to provide orientation to the Learner Goals, Academic Expectations, and changes made to the various components of KIRIS during Accountability Cycle 3. The completion of this background survey provides a necessary foundation for Section II, Test Development and Item Analysis.